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Ping-Wha Lin

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BUTZEL LONG  
IP DOCKETING DEPT  
350 SOUTH MAIN STREET  
SUITE 300  
ANN ARBOR, MI 48104

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PING-WHA LIN

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Appeal 2009-003200  
Application 10/723,396<sup>1</sup>,  
Technology Center 3600

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Decided: October 30, 2009

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Before JENNIFER D. BAHR, LINDA E. HORNER, and  
KEN B. BARRETT, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> This application is related to Application No. 10/255,216, which is also the subject of an appeal (Appeal 2009-004275).

## STATEMENT OF THE CASE

Ping-Wha Lin (Appellant) seeks our review under 35 U.S.C. § 134 of the Examiner's final decision rejecting claims 1-9, 21-26, and 28-30. Claims 10-12, 14, 16, 18-20, 27, 31, and 32 are withdrawn. Claims 13, 15, and 17 are cancelled. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM.

## THE INVENTION

The Appellant's claimed invention is a process of rapidly heating a gas stream containing a source of hydrogen in a manner that leads to nuclear reactions, which are used to operate fuel cells. Spec. 1:8-10. The Appellant's Specification describes that as an extension of Lin's Theory of Flux (the Appellant's theory) when a chemical reaction system is subjected to a high time rate of temperature increase, plasma is formed where collisions of particles can lead to nuclear reactions. Spec. 1:12 to 2:4; 5:2-7. According to the Appellant's Specification, applying a high time rate of temperature increase to a gas flow promotes nuclear reactions, and "cold nuclear fusion has become a reality." Spec. 7:5-6.

Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A method of generating electricity which comprises:
  - a) providing a reactor which comprises:
    - a heat reservoir at an upstream side;
    - a cold reservoir at a downstream side;

a connecting pipe connected between the heat reservoir and the cold reservoir;

a gas inlet at the upstream side;

a gas outlet at the downstream side;

means for flowing a stream of gas containing water through the reactor from the upstream side to the downstream side;

means for heating the gas stream flowing through said reactor at a sufficient rate to cause non-equilibrium reactions to occur in the reactor so that components of said stream of gas to undergo nuclear reactions and produce free electrons; and

a magnet and a conductive collector for collecting and removing freed electrons from the reactor;

b) providing a gas stream that contains water as a source of hydrogen atoms;

c) flowing the gas stream through the reactor using the means for flowing;

d) using the means for heating to heat the gas stream at a rapid rate sufficient to:

i) produce hydrogen atoms from the water;

ii) transform the produced hydrogen atoms into protons and free electrons; and

iii) induce a sustained chain reaction, including nuclear reactions; and

e) using the magnet and conductive conductor to collect the free electrons as a source of electricity.

## THE EVIDENCE

The Examiner relies upon the following evidence:

D. Alber, et al., *Search for Neutrons from 'Cold Nuclear Fusion,'* Zeitschrift fur Phys. A.-Atomic Nuclei, vol. 333 (1989), pp 319-320.

David Braaten, *'Ridiculously' easy test yields claim of energy triumph*, The Washington Times, March 24, 1989, at A5.

Malcolm W. Browne, *'Fusion' Claim is Greeted with Scorn by Physicists*, The New York Times, May 3, 1989, at A1, A22.

George Chapline, *Cold Confusion*, Lawrence Livermore National Laboratory, UCRL – 101583, July 1989, pp. 1-9.

Letter from J. F. Cooke, Oak Ridge National Laboratory, to Alvin W. Trivelpiece, *Report of Foreign Travel of J.F. Cooke* (July 31, 1989) (on file with Oak Ridge National Laboratory, Foreign Trip Report 3341).

M. Cribier, et al., *Conventional Sources of Fast Neutrons in "Cold Fusion" Experiments*, Physics Letters B, vol. 228, No. 1, September 7, 1989, pp 163-166.

S. H. Faller, et al., *Investigation of Cold Fusion in Heavy Water*, J. Radioanal. Nucl. Chem., Letters, vol. 137, No. 1, August 21, 1989, pp 9-16.

W. Hajdas, et al., *Search for Cold-Fusion Events*, Solid State Communications, vol. 72, No. 4, 1989, pp 309-313.

Philip J. Hilts, *Significant Errors Reported in Utah Fusion Experiments*, The Washington Post, May 2, 1989, at A1, A7.

G. Horányi, *Some Basic Electrochemistry and the Cold Nuclear Fusion of Deuterium*, J. Radioanal. Nucl. Chem., Letters, vol. 137, No. 1, August 21, 1989, p. 23-28.

G. Kreysa, et al., *A critical analysis of electrochemical nuclear fusion experiments*, J. Electroanal. Chem., vol. 266 (1989), pp 437-450.

N. S. Lewis, et al., *Searches for low-temperature nuclear fusion of deuterium in palladium*, Nature, vol. 340, August 17, 1989, pp 525-530.

Gordon M. Miskelly, et al., *Analysis of the Published Calorimetric Evidence for Electrochemical Fusion of Deuterium in Palladium*, Science, vol. 24, No. 4931, November 10, 1989, pp 793-796.

Hiroshi Ohashi & Takashi Morozumi, *Decoding of Thermal Data in Fleischmann and Pons Paper*, J. Nucl. Science and Tech., vol. 26(7) (July 1989), pp. 729-732.

*Panel Opposes Cold Fusion Efforts*, Associated Press, The Washington Post, July 13, 1989, at A14.

*Physicist: Utah Cold-Fusion Gear Doesn't Work*, Associated Press, The Washington Post, March 29, 1990, at A3.

P. B. Price, et al., *Search for Energetic-Charged-Particle Emission from Deuterated Ti and Pd Foils*, Physical Review Letters, vol. 63, No. 18, October 30, 1989, pp 1926-1929.

M. H. Salamon, et al., *Limits on the emission of neutrons,  $\gamma$ -rays, electrons and protons from Pons/Fleischmann electrolytic cells*, Nature, vol. 344, March 29, 1990, pp 401-405.

G. Schrieder, et al., *Search for cold nuclear fusion in palladium-deuteride*, Zeitschrift fur Phys. B-Condensed Matter, vol. 76, No. 2 (1989), pp 141-142.

Gad Shani, et al., *Evidence for a Background Neutron Enhanced Fusion in Deuterium Absorbed Palladium*, Solid State Communications, vol. 72, No. 1 (1989), pp 53-57.

David Stipp, *Georgia Group Outlines Errors That Led to Withdrawal of 'Cold Fusion' Claims*, The Wall Street Journal, April 26, 1989, at B4.

J. F. Ziegler, et al., *Electrochemical Experiments in Cold Nuclear Fusion*, Physical Review Letters, vol. 62, No. 25, June 19, 1989, pp 2929-2932.

## THE REJECTIONS

The Appellant seeks review of the following rejections by the Examiner:

1. Rejection of claims 1-9, 21-26, and 28-30 under 35 U.S.C. § 101, because the claimed invention is inoperative and therefore lacks utility.
2. Rejection of claims 1-9, 21-26, and 28-30 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

## ISSUES

The Examiner found that the methods of claims 1-9, 21-26, and 28-30 are inoperative, and therefore lack utility (usefulness), and the Examiner concluded that these claims contain subject matter that is not described in

the Specification in such a way as to enable a person skilled in the art to make and use the invention. Ans. 4-16.

For each ground of rejection, the Appellant argues claims 1-9, 21-26, and 28-30 as a group. App. Br. 13-14; Reply Br. *passim*. As such, we select claim 1 as the representative claim, and claims 2-9, 21-26, and 28-30 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2009). The Appellant argues that the Examiner's evidence related to the cold fusion process of Fleischmann and Pons, on which the Examiner relies for the finding of inoperability, is not relevant to the case at hand because Fleischmann and Pons's method differs from the claimed method. App. Br. 11-12; Reply Br. 1-3. The Appellant makes a variety of other arguments contending that the Appellant's process is adequately explained in the Specification. App. Br. 6-14; Reply Br. 1-8

The issues before us are:<sup>2</sup>

Has Appellant shown the Examiner erred in finding that the claimed method is inoperative and therefore lacks utility?

Has Appellant shown the Examiner erred in finding that the claimed method is inoperative and thus concluding that the claims contain subject matter that was not described in the Specification in such a way as to enable

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<sup>2</sup> The Examiner also objected to the Specification under 35 U.S.C. § 112, first paragraph, because the claimed method is inoperable. Ans. 4-15. To the extent that this objection relates to the rejections of claims 1-9, 21-26, and 28-30, our decision with respect to the rejections likewise is dispositive as to the corresponding § 112 objection. Because we address the operability issue in our analysis of the rejections *infra*, the Examiner can take appropriate action with respect to the objection commensurate with our decision on the rejections.

a person skilled in the art to make and use the invention without undue experimentation?

### FINDINGS OF FACT

We find that the following enumerated facts are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. The Appellant's Specification describes that as an extension of Lin's Theory of Flux (the Appellant's theory) in the claimed chemical reaction plasma is formed where collisions of particles can lead to nuclear reactions, including nuclear fusion, "and cold nuclear fusion has become a reality." See, e.g., Spec. 1:12 to 2:4; 5:2-7; 6:7-9; 7:5-6; fig. 9 (referring to the first nuclear fusion zone 326, and subsequent nuclear fusion zone 324).
2. The Appellant's claimed process recites producing nuclear reactions, to include nuclear fusion, using water as a hydrogen source. Claim 1; see also Spec. 6:2-4; 26:14-18. Likewise, Fleischmann and Pons alleged producing nuclear fusion using water as a hydrogen source. Braaten at A5 (alleging nuclear energy from sea water); Browne at A1 (cold fusion can be initiated in a cell containing heavy water).
3. Because Fleischmann and Pons alleged their cold fusion reaction to have included nuclear fusion, the scientific community attempted to reproduce and confirm the asserted process by detecting the telltale signs of nuclear reactions, such as: the production of radiation (e.g. gamma rays), neutrons, tritium, and helium. See, e.g., Browne at A22(Caltech scientists looked for symptoms of fusion, including

emitted neutrons, gamma rays, tritium, and helium); Chapline at 1 (referring to tests at dozens of other laboratories that looked for neutron production); Cooke at 5; Hajdas at 309 (“we looked for the characteristic neutrons and gamma rays from the dd fusion reaction”); Ziegler at 2129 (“looked for energetic charged particles which are characteristic of nuclear fusion reactions”; nuclear-reaction products are gamma rays, neutrons, and tritium); Schrieder at 141 (measuring nuclear fusion reactions by generation of tritium and neutrons); Salamon at 401 (testing the cold fusion theory by looking for radiation emissions including gamma rays).

4. In these attempts to reproduce and confirm the asserted process, the production of heat, without more, was not considered conclusive evidence of nuclear reactions such as fusion because it could be explained by other causes. Kreysa at 449 (heat can be explained by other reasons, such as recombination of hydrogen and oxygen, and was not considered conclusive evidence of nuclear reactions); Ohashi at 732 (other factors that may cause heat must be eliminated before a conclusion that nuclear reactions caused the heat can be supported); Hajdas at 312 (detection of radiation is the “most sensitive tool” to establish the fusion process); Lewis at 530 (concluded that heat, without radiation, is not a sufficient explanation to conclude nuclear reactions have occurred).
5. The Appellant admits that Fleischmann and Pons asserted they had discovered a “cold fusion” process that achieved nuclear fusion.  
App. Br. 11, Reply Br. 3.

6. The Appellant's Specification does not contain evidence the claimed nuclear reactions were confirmed by measuring nuclear reaction products such as gamma rays, neutrons, tritium, or helium; rather, the Appellant's Specification states in the pilot plant study, a temperature increase of a magnitude of about 500°F over a duration of sixteen hours following the input of heat from the burners "clearly indicates that nuclear reactions were present" in the vertically-fired combustor. Spec. 5:8-21. Further, Appellant admits to relying upon inference of nuclear reactions based on the observed temperature increase rather than based on any measurements of nuclear reaction products. App. Br. 11.

#### PRINCIPLES OF LAW

35 U.S.C. § 101 (2002) states,

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof may obtain a patent therefor, subject to the conditions and requirements of this title.

Whether an application discloses a utility for a claimed invention is a question of fact. *In re Ziegler*, 992 F.2d 1197, 1200 (Fed. Cir. 1993); *Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 956 (Fed. Cir. 1983).

"The PTO may establish a reason to doubt an invention's asserted utility when the written description 'suggest[s] an inherently unbelievable undertaking or involve[s] implausible scientific principles.'" *In re Cortright*, 165 F.3d 1353, 1357 (Fed. Cir. 1999) (*quoting In re Brana*, 51 F.3d 1560, 1566 (Fed. Cir. 1995)) (alteration in original). Stated differently, the examiner must present the evidence necessary to establish a reason for

one of ordinary skill in the art to question the objective truth of the statement of utility. *Id.*; *see also, In re Houghton*, 433 F.2d 820 (CCPA 1970) (Where the claimed device was a flying machine that did not operate on airfoil or thrust principles, but rather operated based on a “flutter function” concept drawn from studies of bird and insect flight, the court determined that in evaluating an application of such a highly unusual nature, it was not unreasonable for the Examiner to require proof of utility, and upheld a rejection for lack of utility under 35 U.S.C. § 101, even where the Specification included equations drawn from studies of bird and insect flight.).

Once the examiner has provided evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility, then the burden shifts to the applicant to submit evidence sufficient to convince such a person of the invention's asserted utility. *Brana*, 51 F.3d at 1566. *See e.g., In re Swartz*, 232 F.3d 862, 864 (Fed. Cir. 2000) (“the PTO provided several references showing that results in the area of cold fusion were irreproducible”). In *Swartz*, the court found “the PTO provided substantial evidence that those skilled in the art would ‘reasonably doubt’ the asserted utility and operability of cold fusion.” *Id.* Accordingly, the evidentiary burden was shifted to Swartz to submit “evidence of operability that would be sufficient to overcome reasonable doubt.” *Id.* Failing to satisfy his evidentiary burden, the court found that “the utility of Mr. Swartz's claimed process had not been established and that his application did not satisfy the enablement requirement.” *Id.*

35 U.S.C. § 112, first paragraph, (2002) states:

The specification shall contain a written description of the invention, and of the manner and process of making and using

it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The how to use prong of section 112 incorporates as a matter of law the requirement of 35 U.S.C. Section 101 that the specification disclose as a matter of fact a practical utility for the invention.” *Ziegler*, 992 F.2d at 1200 (citations omitted). “If the application fails as a matter of fact to satisfy 35 U.S.C. Section 101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. Section 112.” *Id.*

#### ANALYSIS

In this case the issues of utility under 35 U.S.C. § 101, and enablement under 35 U.S.C. § 112, first paragraph, turn on a single question of operability of the claimed invention. *See In re Brana*, 51 F.3d 1560, 1564 (Fed. Cir. 1995) (“Obviously, if a claimed invention does not have utility, the specification cannot enable one to use it.”). *See also In re Ziegler*, 992 F.2d 1197, 1200 (Fed. Cir. 1993).

Claim 1 recites a method of generating electricity by rapidly heating a gas stream that contains water at a rapid rate sufficient to, *inter alia*, “induce a sustained chain reaction, including nuclear reactions.” The Appellant’s Specification describes the nuclear reactions as “cold nuclear fusion,” and as including nuclear fusion (Fact 1). A person of ordinary skill in the art would understand claim 1 to comprise a method that induces nuclear reactions, including nuclear fusion.

*Prima Facie Case*

Our threshold inquiry is to determine if the examiner has provided evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility. *See In re Brana*, 51 F.3d 1560, 1566 (Fed. Cir. 1995); *see also, In re Swartz*, 232 F.3d 862, 864 (Fed. Cir. 2000).

The Examiner determined that the claimed method of “cold nuclear fusion” is directed to producing electrical energy by nuclear reactions, including nuclear fusion. Ans. 4. The Examiner found that the cold fusion concept set forth by Fleischmann and Pons was also alleged to include nuclear fusion, and the scientific community attempted to confirm the nuclear reaction of Fleischmann and Pons’ process through detection of nuclear measurements, such as measuring emissions of neutrons, gamma rays, tritium, and/or helium. Ans. 4-8. The Examiner reasoned that because both the claimed process and Fleischmann and Pons’s process are alleged to include nuclear reactions, the claimed nuclear reactions should likewise be capable of being confirmed by detection of nuclear measurements. Ans. 4-8, 19 (“appellant has not shown that any nuclear measurements were performed to provide objective evidence that these reactions are nuclear reactions.”). Based on this, the Examiner found the absence of nuclear measurements for the claimed process is a reasonable basis to doubt the asserted utility of the claimed method. *Id.*

The Examiner’s finding of prima facie inoperability is reasonable and supported by sufficient evidence. The claimed process and Fleischmann and Pons’s process are similar in that both are alleged to produce nuclear fusion using water as a hydrogen source (Facts 2, 5). The scientific community attempted to confirm the nuclear fusion of Fleischmann and Pons’ process

through detection of nuclear measurements because production of heat alone was inconclusive (Facts 3, 4). The Appellant's Specification does not confirm the presence of nuclear reactions by nuclear measurements, but rather infers the occurrence of nuclear reactions from a temperature increase over a time-period (Fact 6). We agree with the Examiner's finding that the absence of nuclear measurements for the claimed process is a reasonable basis to doubt the objective truth of the asserted utility of the claimed method.

We conclude the Examiner has provided sufficient evidence to establish a reason for one of ordinary skill in the art to reasonably doubt the asserted utility of the claimed process. Because the Examiner made a *prima facie* case that the claimed method lacks utility because the method is inoperable, and is therefore not enabled, the evidentiary burden was shifted to the Appellant to submit "evidence of operability that would be sufficient to overcome reasonable doubt." *See Brana*, 51 F.3d at 1566.

*Rebuttal*

We disagree with the Appellant's assertion that the Examiner's evidence related to the cold fusion process of Fleischmann and Pons is not relevant to the case at hand because Fleischmann and Pons's method differs from the claimed method. App. Br. 11-12; Reply Br. 1-3. While we acknowledge there are differences between the processes, the Appellant has ignored that both Fleischmann and Pons's process and the claimed method are alleged to include nuclear reactions, to include nuclear fusion (Facts 1, 5). Because Fleischmann and Pons asserted they had created nuclear fusion, the scientific community looked for evidence of nuclear reactions such as the production of gamma rays, neutrons, and tritium (Fact 1). Thus, contrary

to the Appellant's argument, the evidence related to reproducing and confirming Fleischmann and Pons's process is relevant because the claimed process, like Fleischmann and Pons' process, includes nuclear reactions, and as such, should produce scientifically-accepted evidence of nuclear reactions such as emissions of gamma rays, neutrons, and tritium.

In response to the Examiner's finding that nuclear fusion occurs only at temperatures on the order of tens of millions of degrees Kelvin, while the highest temperature recited in the Appellant's Specification is 840° Fahrenheit, the Appellant asserts the claimed process differs from that of Fleischmann and Pons. Ans. 17, Reply Br. 5. We are puzzled by this response because the finding is not in any way related to Fleischmann and Pons's process. The point of the finding is that current knowledge is that fusion takes place at temperatures far above those recited by the Appellant, casting doubt on the claimed process. The Appellant's nonresponsive argument fails to demonstrate error in the Examiner's finding.

Regarding the working examples, the Appellant asserts that the Examiner has unfairly prejudiced the Appellant by suggesting that testing funded by the patent applicant is biased because the burden of independent testing is "insurmountable by all patent appellants, especially independent, small entities." App. Br. 12. We do not agree that the Appellant has been unfairly prejudiced. First, the Examiner has not stated, nor is there, an explicit rule stating that all testing must be funded by other than the Appellant (patent applicant). Second, the problem is not just that the Appellant funded the testing, but the Examiner also found that the testing was not performed independently because the testing was performed in "close consultation with the inventor." See Ans. 23 (referring to Spec. 19:20

to 20:2). It appears that the fact that the Appellant funded the testing and that the contractor performed the testing “in close consultation with the inventor” were factors going to the weight the Examiner gave to those results. However, even if we were to assume the testing was not funded by the Appellant and was performed independently, that would not alter the outcome of this case. The Appellant carries the burden of proof and has still failed to adequately answer the Examiner’s findings. The working examples are evidence only that an increase in temperature occurred, from which the Appellant wishes us to infer that a nuclear reaction took place. As the Examiner established from the cited literature, heat alone is inconclusive evidence of a nuclear reaction (Fact 4). We fail to find that Appellant’s evidence of a temperature increase, without more, is persuasive objective evidence of a nuclear reaction, and thus operability, in light of the absence of scientifically-accepted measures to confirm nuclear reactions.

The Appellant asserts that the present inventor has presented numerous papers and given numerous lectures on nuclear and alternative energies, without adverse challenge to Lin’s theory of flux<sup>3</sup>, and that the Appellant has applied for corresponding patents in China and the United Kingdom, which demonstrates the scientific community has accepted Lin’s theory of flux. App. Br. 10-11; Reply Br. 4. While the Appellant could have chosen to submit factual evidence regarding these assertions, none was submitted. *CFMT, Inc. v Yieldup International Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (an applicant may submit objective factual evidence to the PTO during prosecution). Because the Appellant’s arguments do not take

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<sup>3</sup> The Appellant asserts a lack of challenge to Lin’s theory of flux, but the claimed method is not Lin’s theory of flux, but rather an extension of Lin’s theory of flux.

the place of evidence, we give these assertions little weight. *See In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974).

However, even assuming, *arguendo*, that the Appellant has been invited as a frequent speaker worldwide, and has “applied” for corresponding patents in China and the United Kingdom, that does not prove the scientific community has accepted Lin’s theory of flux or the extension of this theory. An invitation to speak can hardly be construed as an endorsement of the Appellant’s method, nor is the silence of the scientific community an endorsement. Further, an application for a patent is no guarantee the application will issue, and as the Examiner points out, standards in other countries are not the same as those in the United States. See Ans. 22. We have considered these arguments, and find them entitled to little weight. Further, these arguments do not explain the lack of objective evidence of operability, i.e., testing to show objective evidence of nuclear reactions by nuclear measurements.

The Appellant also asserts that a person of ordinary skill in the art could “easily and readily” practice the Appellant’s claimed invention, so that the enablement requirement of § 112, first paragraph, is satisfied because the Specification includes working examples. App. Br. 8-10. The Examiner points to numerous portions of the Specification as inadequate to permit a person of ordinary skill in the art to make and use the claimed method, which we need not repeat here. Ans. 8-12. As we previously determined, *supra*, the burden of proof has shifted to the Appellant. The Appellant’s argument here is not rebuttal, but rather an attempt to shift the burden of proof back to the Examiner. The Appellant’s recitation of the legal standard

involved without addressing the Examiner's specific findings does not demonstrate error in those findings.

In response to the Examiner's finding that the Appellant has not conducted nuclear measurements, the Appellant asserts that the Appellant has reasonably relied on inference (Fact 6). For the reasons provided *supra*, this inference is insufficient evidence of operability to rebut the Examiner's prima facie case. Specifically, the Appellant's arguments about inference and scientific principles are diversions from two significant facts: (1) that the Appellant's Specification relies on production of excess heat to prove nuclear reactions, when the Examiner has established that excess heat can be caused by numerous other factors and the Appellant has failed to adequately explain and/or provide objective evidence to persuade us that the excess heat that occurred in the working examples was necessarily the result of nuclear reactions, and (2) that the Appellant's Specification does not contain nuclear measurements, when the scientific community recognizes these as telltale signs of nuclear reactions (Facts 2, 6, Error! Reference source not found.).

The Appellant further asserts that the enablement requirement of 35 U.S.C. § 112, first paragraph, does not require a description of the scientific principles that cause the results of the invention. Reply Br. 6-7. Where a scientific principle is not incorporated into the claims, and an explanation of that principle is not needed to permit a person of ordinary skill in the art to make and use the claimed device, the inventor is not required to comprehend the scientific principle on which the practical effectiveness of the invention rests. *See Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570 (Fed. Cir. 1983). This is not such a case. In contrast to *Fromson*, where the principle involved was not claimed nor

required to be explained for enablement, here the Appellant has claimed the principle involved (nuclear reactions), and the Appellant's Specification must enable a person of ordinary skill in the art to make and use the claimed method of "generating a sustained nuclear reaction."

The Appellant's remaining arguments suffer from the same shortcoming, namely, a failure to address the absence of nuclear measurements when the scientific community recognizes these as telltale signs of nuclear reactions.

We find the Examiner set forth a prima facie case of lack of utility of the claimed invention, and that the Appellant failed to adequately rebut the Examiner's finding. Because the application fails a matter of fact to satisfy 35 U.S.C. § 101, the Specification also fails as a matter of law to enable a person of ordinary skill in the art to use the invention under 35 U.S.C. § 112, first paragraph.

## CONCLUSIONS

The Appellant has failed to show that the Examiner erred in finding that the claimed method is inoperative and therefore lacks utility.

The Appellant has failed to show that the Examiner erred in concluding that the claimed method contains subject matter that was not described in the Specification in such a way as to enable a person skilled in the art to make and use the invention.

DECISION

We AFFIRM the decision of the Examiner to reject claims 1-9, 21-26, and 28-30 under 35 U.S.C. § 101 as lacking utility, and under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

Vsh

BUTZEL LONG  
IP DOCKETING DEPT  
350 SOUTH MAIN STREET  
SUITE 300  
ANN ARBOR MI 48104